

Applicant confirms election of Group 1, claims 2 to 30 and 33 and species of hyperbranched polymers and silica solid, claims 2, 3, 10 to 18, 24 to 30 and 33, without traverse.

Claims 4 to 9, 19 to 23, and 34 and 35 have been withdrawn from further consideration by the examiner.

Applicant notes for the Examiner that this election does not change the inventorship.

Applicant has noted the rejection of claim 15 under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, the examiner noting that it is not understood what the phrase "the silica is filmed" means. It is believed by the applicant that the Examiner meant "fumed", not "filmed".

"Fume" relates to the type of silica. Fumed silica is silica that is formed by burning silanes wherein the substituents on the silicon atom are burned off leaving just SiO_2 . This material is common and known to those skilled in the art.

Applicant has noted that the Examiner will allow certain claims, that is, claim 33 incorporating the subject matter of claims 3, 11 and 13.

Applicant has amended claim 33 to incorporate the subject matter of claims 3 and 11, but not the subject matter of claim 13. It is the applicant's position that the newly amended claim 33 is allowable over the cited prior art without the limitation found in claim 13.

In the event that the Examiner is willing to allow the newly amended claim 33 as constructed, the applicant has amended some of the remaining claims such that they would also be allowable and the applicant requests that the examiner consider

recombining the claims and consider the allowance of the claims 2, 10, 12 to 19, and 23 to 30 and 33 as amended.

Turning now to the rejection of claims 2 to 4, 10 to 13, 26, 28 and 33, under 35 USC 102(b) as being anticipated by Shell Internationale Research Maatschappij BV, WO 01/77270 A1, the applicant would state that the reference deals with dendrimer polymers or functionalized hyperbranched polyesteramides and that precludes the use of the reference in the manner that the Examiner intends.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Because of the amendments to claim 33, the instant invention does not claim dendritic polymers or functionalized hyperbranched polyesteramides and therefore, this reference is inapplicable for a 35 USC 102 rejection and the rejection should be withdrawn.

Likewise, the rejection of claims 2, 10 to 13, 21, 24, 27, 29, 30 and 33 as being anticipated by Sloan cannot be maintained under 35 USC 102(b) for the reasons set forth above, owing to the fact that that reference teaches the use of poly(N-vinyl-2-pyrrolidone and/or hydroxyethylcellulose and the instant invention does not claim such polymers owing to the amendment of claim 33. Therefore, this rejection should be withdrawn.

The rejection of claims 2, 10 and 33 under 35 USC 102(b) as being anticipated by Sloan cannot be sustained either as that reference deals with polyoxazolines or polyamides which are not claimed in the instant invention and this rejection should be withdrawn.

Further, the rejection of claim 2, 3, 10 and 33 under 35 USC 102(b) as being anticipated by Pakulski cannot be sustained in view of the fact that Pakulski used polyoxyalkylenediamino polymers which are not claimed in the instant invention.

Further, the applicant takes note of the comment regarding the chelating property of the polymer described by the Examiner in view of the free electrons from the oxygen atoms along the polymer chains. Applicant does not believe that this is good chemistry, nor is it possible.

Turning now to the rejection of claims 2 to 10, 13 and 33 as being rejected under 35 USC 103(a) and unpatentable over Shell Internationale Research Maatschappij BV, WO 01/77270 A1 in view of DSM NV, WO 00/58388, the applicant would state for the Examiner that these references cannot possibly make the instant invention obvious. These references teach the inhibition of the formation of crystals while the instant invention deals with and encourages the formation of the crystals, completely opposite results and, the formation of the crystals is totally unexpected in view of the teachings of these references.

The Shell reference teaches the use of the polymers disclosed therein to act as a "hydrate inhibitor" which means that the polymer prevents the hydrate crystal forming and in effect "inhibits" gas hydrate formation. It works in an analogous manner to salt depressing the freezing point of water in order to prevent ice formation. There will come a temperature at which the salt fails to operate and the temperature depression before the onset of ice is known as the "the degrees of cooling" by the oil and gas industry when applied to polymers and inhibition of gas hydrate formation.

On the other hand, and decidedly different, the instant invention seeds gas hydrate crystals and induces an early formation of crystals which collect at and within the polymer. In this manner, the crystals are formed before they would naturally form, but they form at and/or within the polymer structure. In this way, the crystals cannot form large hydrate structures and remain separate, or in other words, they remain in a non-agglomerated form and hence the technology acts as an anti-agglomerate.

Enclosed is a picture furnished by the inventor herein in which there is shown a Rocking Cell that is used to test anti-agglomerates which is different from the Inhibitor Cells to test hydrate inhibitors as used by Shell in the reference. One can see in the two pictures that when rocked without the instant invention product, the crystal hydrate forms and will prevent the ball bearing from rolling up and down the tube as it is rocked. In the case of the cell with the product of the instant invention, the hydrate crystals have formed at or within the polymer at the surface of the silica and they do not agglomerate. In this case, the black oil remains fluid as one can observe clearly, thereby allowing the ball to roll freely up and down the tube as it rocks.

The Examiner has rejected claims 2, 10 to 12, 14, 16 to 18, 24, 25, 27 to 30 and 33 under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Hutchinson, U.S. Patent 2,293,901.

With regard to this rejection under 35 USC 102(b), the applicant submits that the arguments addressed to the rejection of claims 2 to 4, 10 to 13, 26, 28 and 33, under 35 USC 102(b) as being anticipated by Shell Internationale Research Maatschappij BV, WO 01/77270 A1, are equally applicable herein and with regard to this rejection based on 35 USC 103(a) as

obvious over Hutchinson, the applicant submits that the arguments addressed to the rejection of the claims 2 to 10, 13 and 33 as being rejected under 35 USC 103(a) and unpatentable over Shell Internationale Research Maatschappij BV, WO 01/77270 A1 in view of DSM NV, WO 00/58388, would equally apply herein, and this rejection should be withdrawn.

Respectfully submitted,



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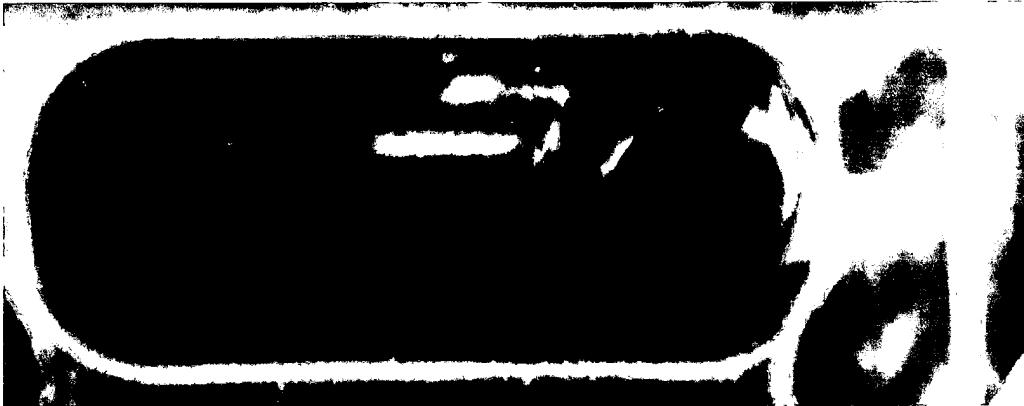
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Captur Technologies test data for anti-agglomerate potency

Selected pictures to show success with Novel Anti-agglomerate in Rocking Cells

Rocking cell picture taken after 18 hours rocking at 4°C, then 24 hours shut in before start up again, without novel anti-agglomerate.



Rocking cell picture taken after 18 hours rocking at 4°C, then 24 hours shut in before start up again, with 0.5% added novel CAPA anti-agglomerate.



Test Program Conditions:

Parameter	Value
Brine	3.5% NaCl
Hydrocarbon	GOM Oil and Synthetic Condensate (50:50)
Brine : Hydrocarbon Ratio	3:7 (by volume)
Temperature	40°F/4°C
Pressure	2500 psi
Concentrations	1-5 vol % based on the water
Gas Composition	Green Canyon Gas